

## Are momentary measures of positive affect better predictors of mortality than recalled feelings?

Step toe and Wardle (1) provided potentially the most compelling evidence to date relating positive feelings to longevity. They extended prior research investigating the well-being–mortality link (2) principally by measuring positive affect in real-time, thus avoiding recall biases that may have confounded prior estimates of this relation. In their study of 3,853 English adults, those scoring in the top positive affect tertile had a 35% reduced risk for mortality, even after controlling for standard demographic factors, as well as negative feelings, health, and health behavior at baseline. This finding is significant in that it suggests that policy changes and other interventions that aim to improve human well-being may also have beneficial health effects (3, 4). However, the advancement offered by the current study is based on the assumption that momentary hedonic experiences may be better predictors of survival than recollected feelings. Crucially, this assumption is implicit throughout the study yet remains untested.

To address this issue, I examined data from 5,545 adults [mean age = 46.9 y (SD = 12.9), 53% female] who took part in the Midlife in the United States study. Given the limitations of the data, a precise test of the effect of recall on the link between psychological well-being and mortality was not possible. However, I chose comparable affect items that differed chiefly in the time horizon participants were requested to report on. Participants first rated how “calm and peaceful” and “full of life” they have felt during the past 30 d. They subsequently indicated how “calm” and “energetic” they feel now. Items were combined to form two moderately correlated measures of recalled and momentary positive affect, respectively ( $r = 0.48$ ,  $P < 0.001$ ).

Standardized momentary positive experiences predicted a reduced risk for mortality from 1995 to 2004 [ $\chi^2 = 9.64$ ,  $P < 0.005$ , odds ratio [OR] = 0.83 [95% confidence interval (CI): 0.73–0.93]]

in logistic regression analyses that adjusted for age, sex, education, negative feelings, and the presence of depression. Further adjusting for smoking, alcohol consumption, and physical activity somewhat attenuated this association [ $\chi^2 = 5.08$ ,  $P < 0.05$ , OR = 0.87 (95% CI: 0.76–0.98)]. Finally, controlling for baseline self-rated physical health and chronic illness eliminated the link between momentary positive affect and mortality [ $\chi^2 = 0.01$ ,  $P = 0.93$ , OR = 1 (95% CI: 0.88–1.13)]. Recollected positive emotional states from the past 30 d were not related to longevity in any of the regression models specified.

The findings presented here strengthen those of Steptoe and Wardle (1) in that they explicitly test and provide support for the assumption that momentary measures of positive affect are better predictors of mortality than retrospective measures. The current findings also sound a cautionary note in that positive momentary feelings appeared to predict survival because they act as a marker for the initial health state. Given the policy implications of this research (3, 4), further investigation is urgently needed to (i) specify the effect of the recall period on associations between psychological well-being and longevity and (ii) verify that positive feelings, rather than poor baseline health, influence mortality.

**Michael Daly**<sup>a,b,c,1</sup>

<sup>a</sup>Health Services Research Unit, University of Aberdeen, Foresterhill, Aberdeen AB25 2ZD, United Kingdom; <sup>b</sup>University College Dublin Geary Institute, University College Dublin, Belfield, Dublin 4, Ireland; and <sup>c</sup>School of Psychological Sciences, University of Manchester, Manchester M13 9PL, United Kingdom

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<sup>1</sup>E-mail: m.daly@abdn.ac.uk.